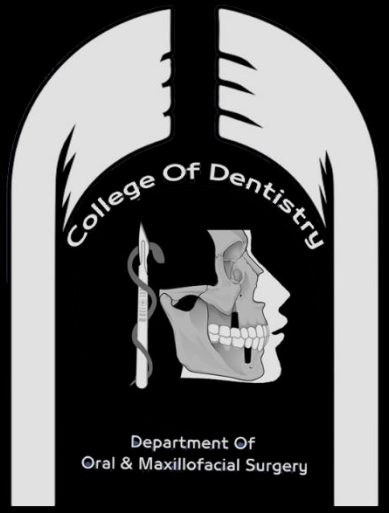
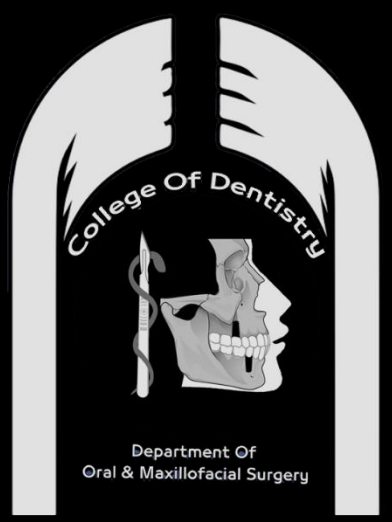


Always Keep It Simple



Assistant Professor Dr. Ahmed Fadhel AL-Quisi

Maxillofacial Department –College of Dentistry- Baghdad University

B.D.S.,F.I.B.M.S.

- Guided bone regeneration (GBR) is a method that acts on the concept of separating graft material from adjacent soft tissue to enable bone regeneration at a lower rate than soft tissue. Zeeshan Sheikh *et al*, 2015

Sheikh Z, Sima C, Glogauer M. Bone replacement materials and techniques used for achieving vertical alveolar bone augmentation. Materials. 2015 Jun;8(6):2953-93.

- GBR osseous regeneration relies on the movement of pluripotential and osteogenic cells (e.g. osteoblasts originating from the periosteum and/or surrounding bone and/or bone marrow) to the bone defect area and the avoidance of cells that inhibit bone formation (e.g., epithelial cells and fibroblasts). In order to repair a bone defect, the osteogenesis rate extending from the neighboring bone margins must exceed the fibrogenesis rate from surrounding tissue. Jie Liu *et al*, 2014

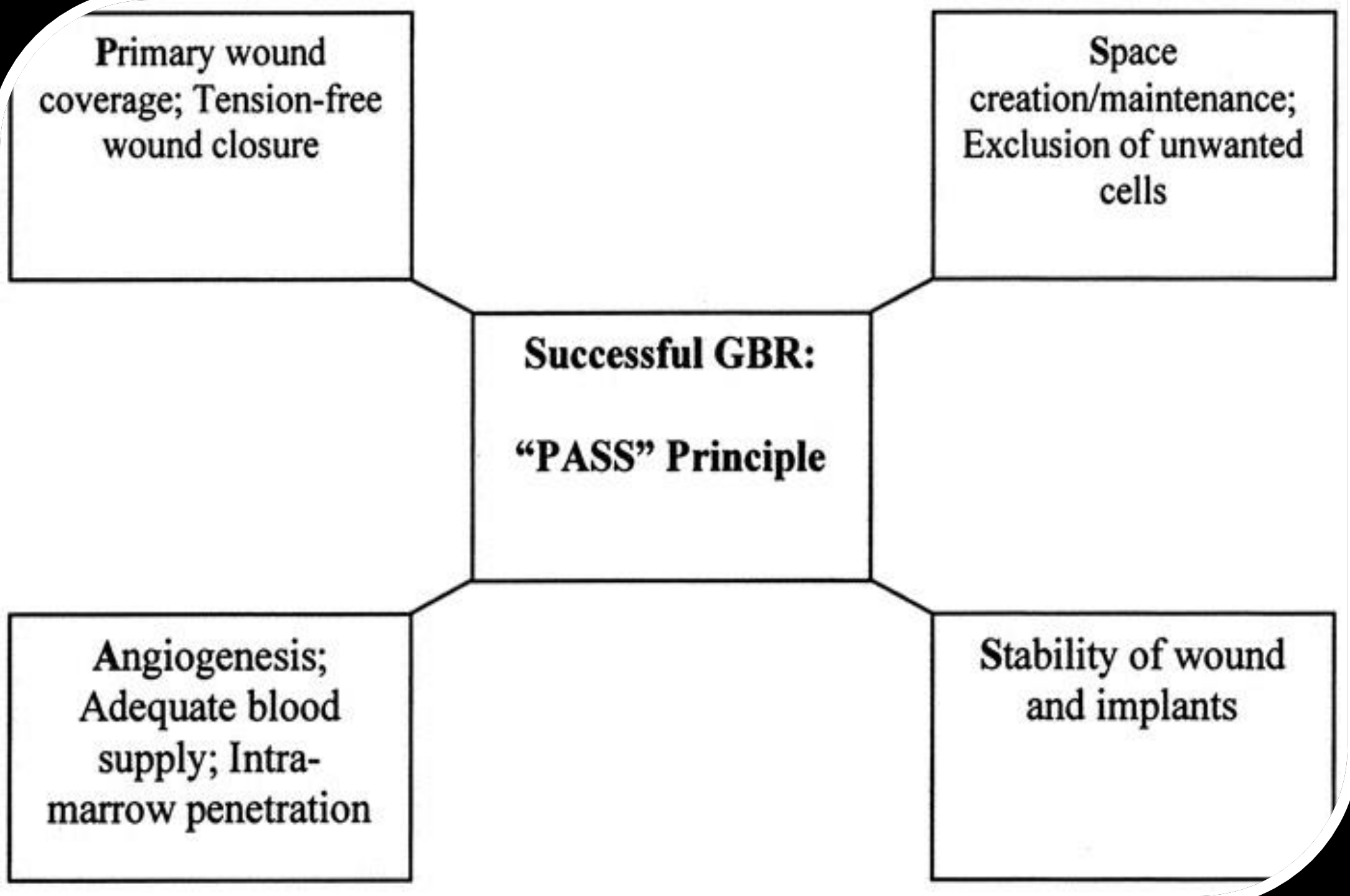
Liu J, Kerns DG. Suppl 1: Mechanisms of guided bone regeneration: A review. The open dentistry journal. 2014;8:56.

10 principles of predictable GBR?

- *When considering regenerative manipulation and grafting you must **first create an adequate recipient site** to restore both aesthetics and function.*
- *Always place implant **graft materials directly against bone** to increase tissue and blood diffusion*
- *keep it **stable by fixation** to avoid micromovement.*

- *Remove all **interposed connective tissue** or integration will fail.*
- *Avoid grafting if **infection** exists near or within the operative periodontal site or if other defects exist.*
- *The **more walls** remaining the **more predictable** will be the repair.*
- ***Remote incisions** ensure that the suture line does not lie over the graft and **minimize the chance of a dehiscence**.*

- *Avoid saliva **contamination** as much as possible*
- *Ensure **graft stability** to allow for better integration*
- *Wound **closure without tension** helps in preventing tissue necrosis and suture tears.*


Primary wound coverage; Tension-free wound closure
Space creation/maintenance; Exclusion of unwanted cells
Successful GBR:
"PASS" Principle
Angiogenesis; Adequate blood supply; Intra-marrow penetration
Stability of wound and implants

One size does NOT fit all.

A commonly used treatment approach for simultaneous bone augmentation :

1.Autogenous bone chips to cover the exposed implant surface or can be replaced with allograft if sufficient amounts of autogenous are not available

➞ enhance new bone formation

2.HA-based filler on the facial aspect (or using Xenograft)

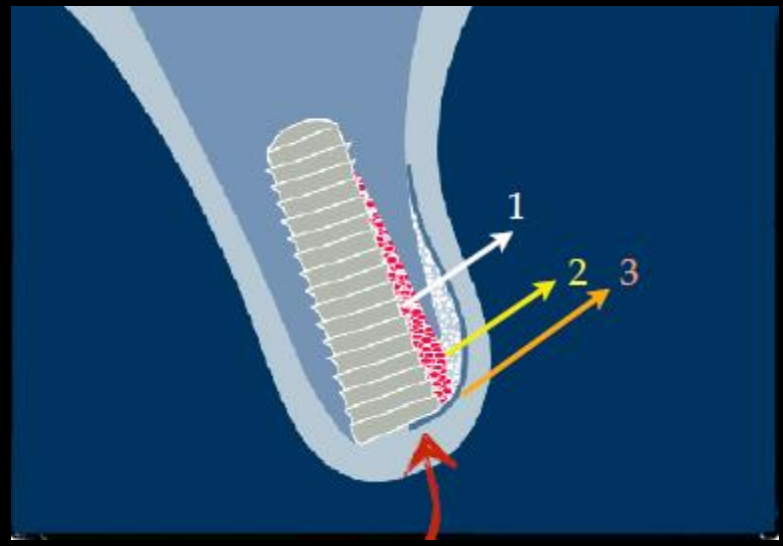
➞ slow substitution

➞maintain facial contour

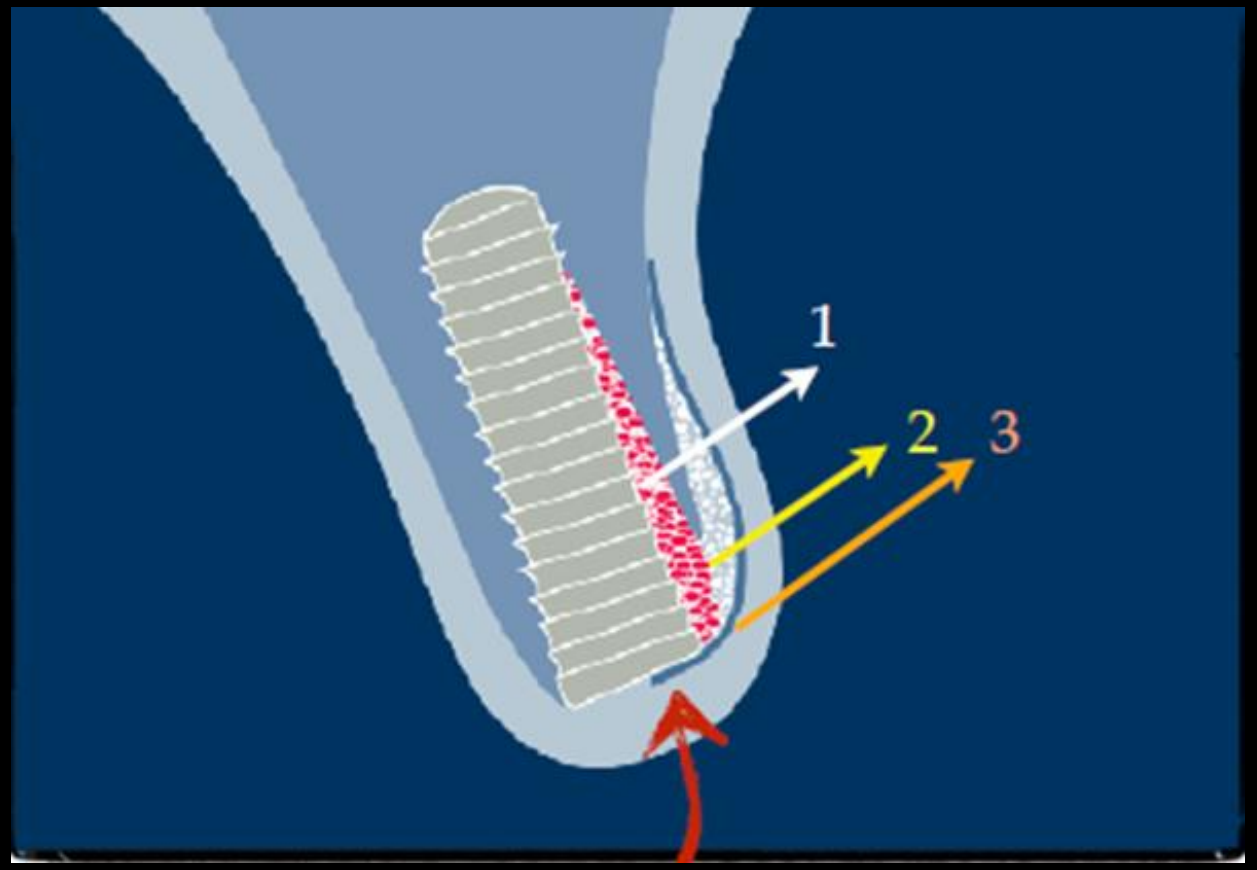
3.Resorbable collagen membrane

➞ stabilize the graft

➞ as barrier

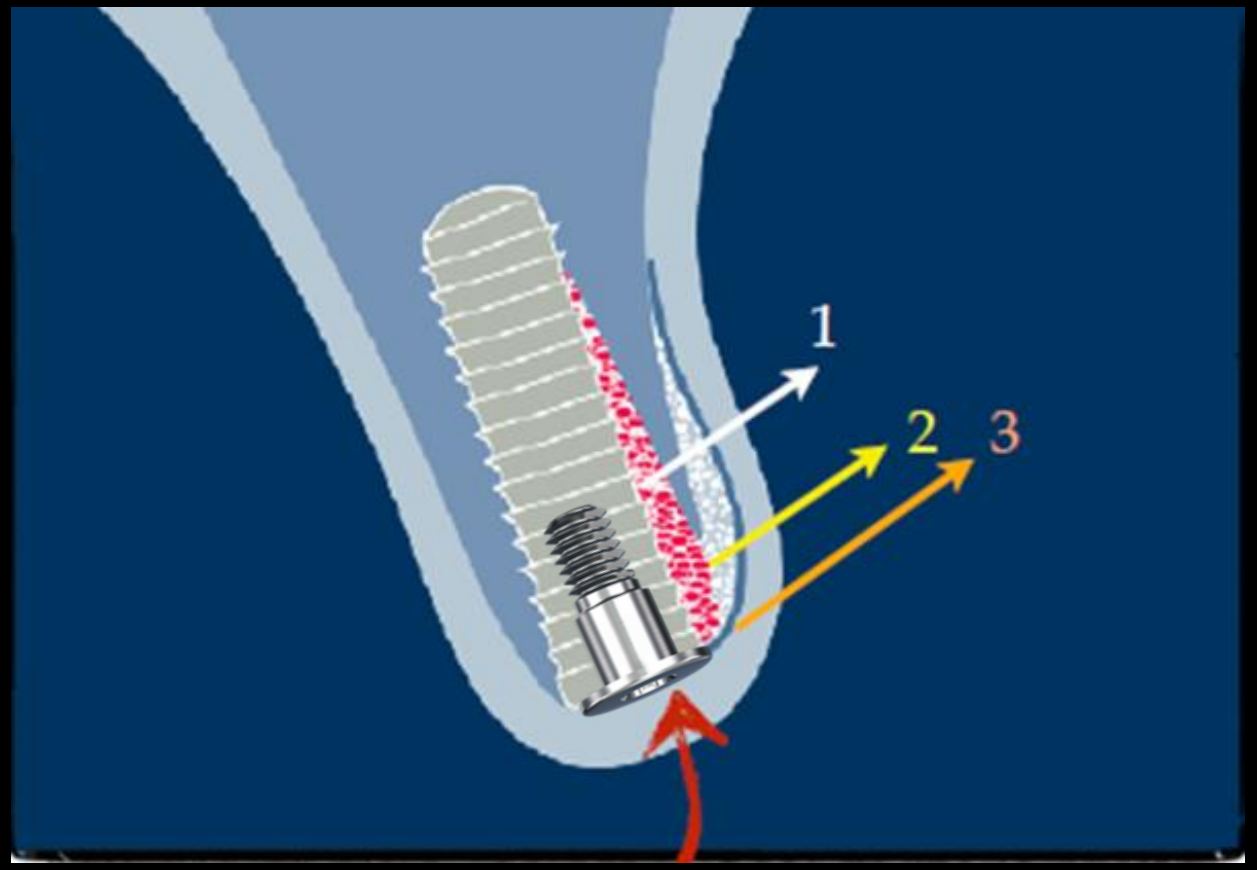


Cover screw or Gingival former



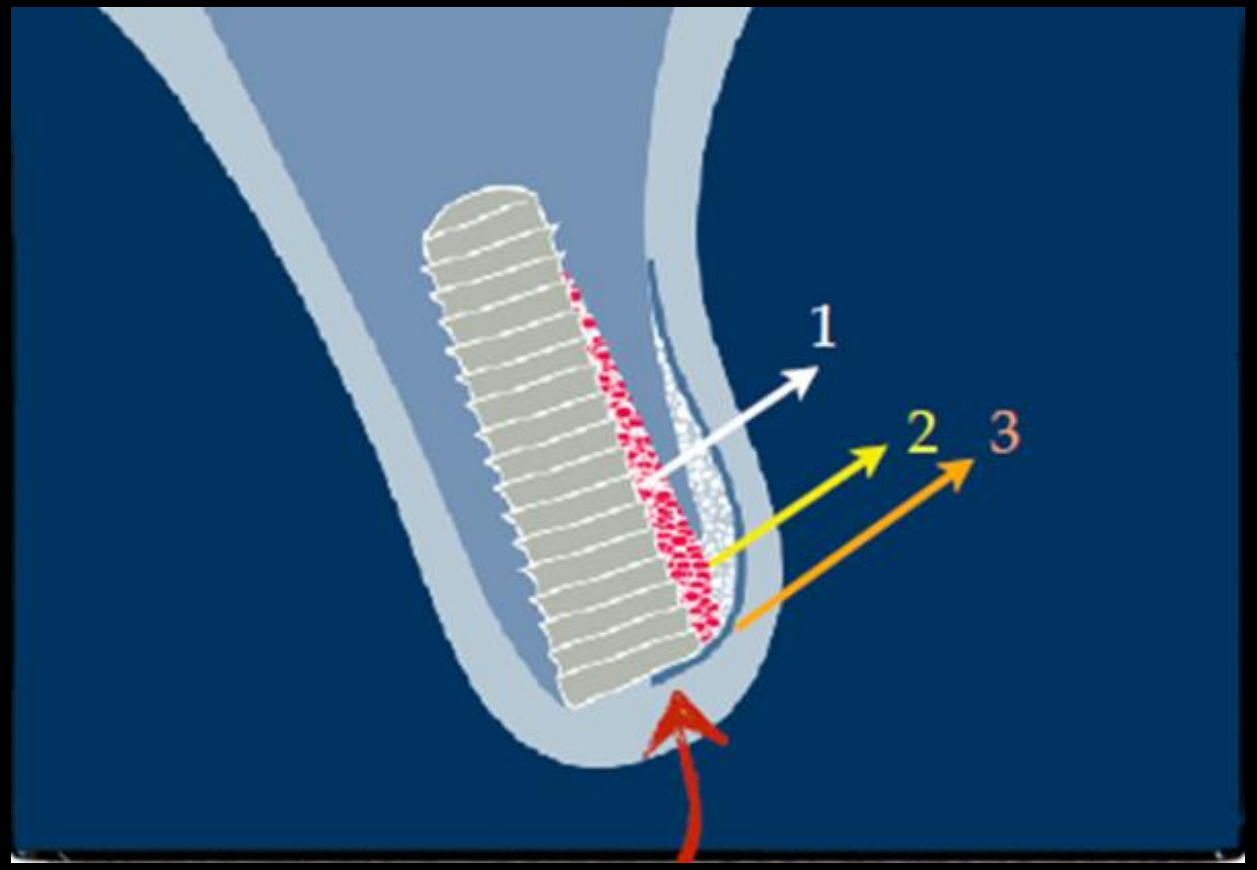
And why

Cover screw or Gingival former



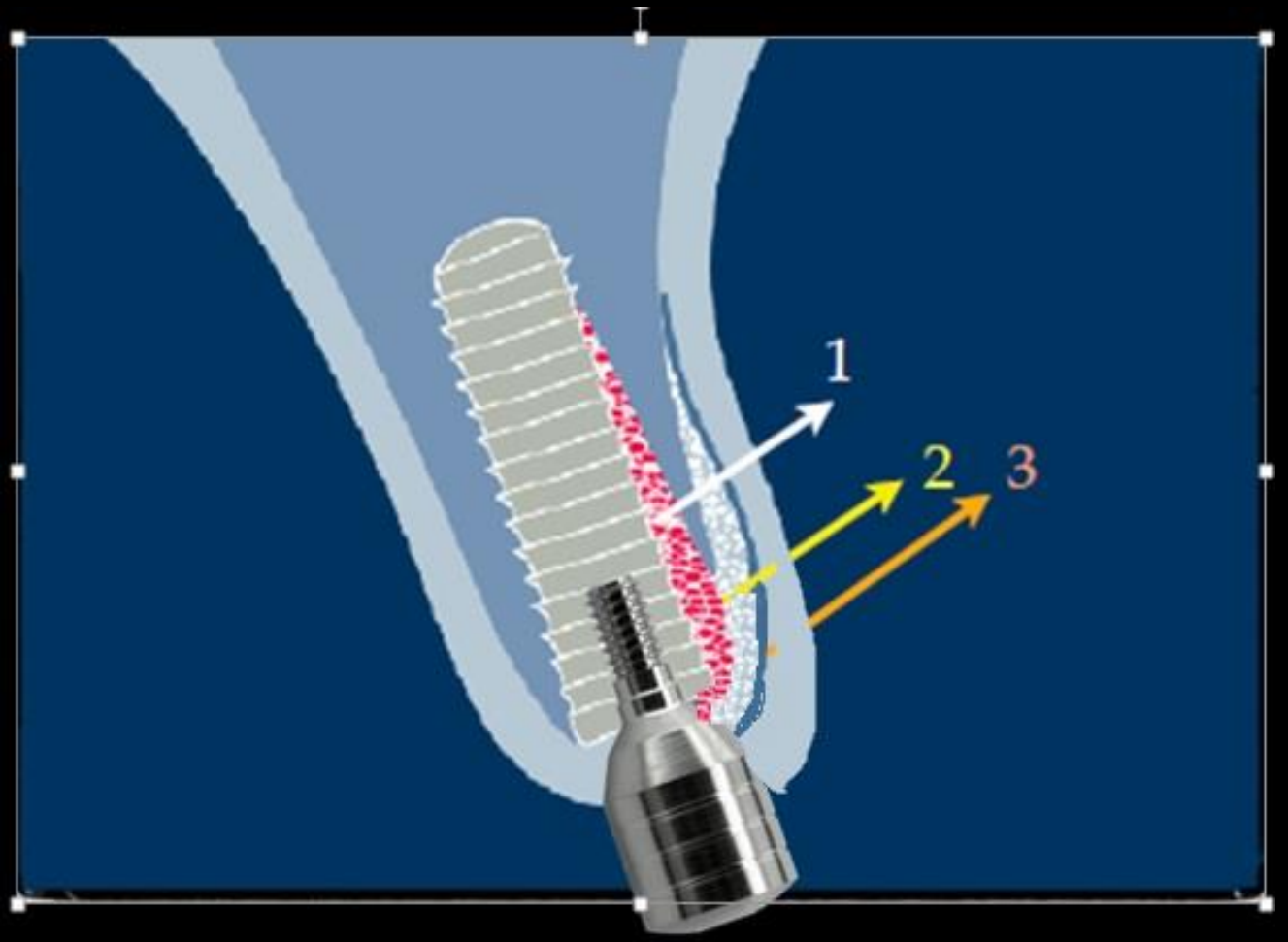
And why

Cover screw or Gingival former

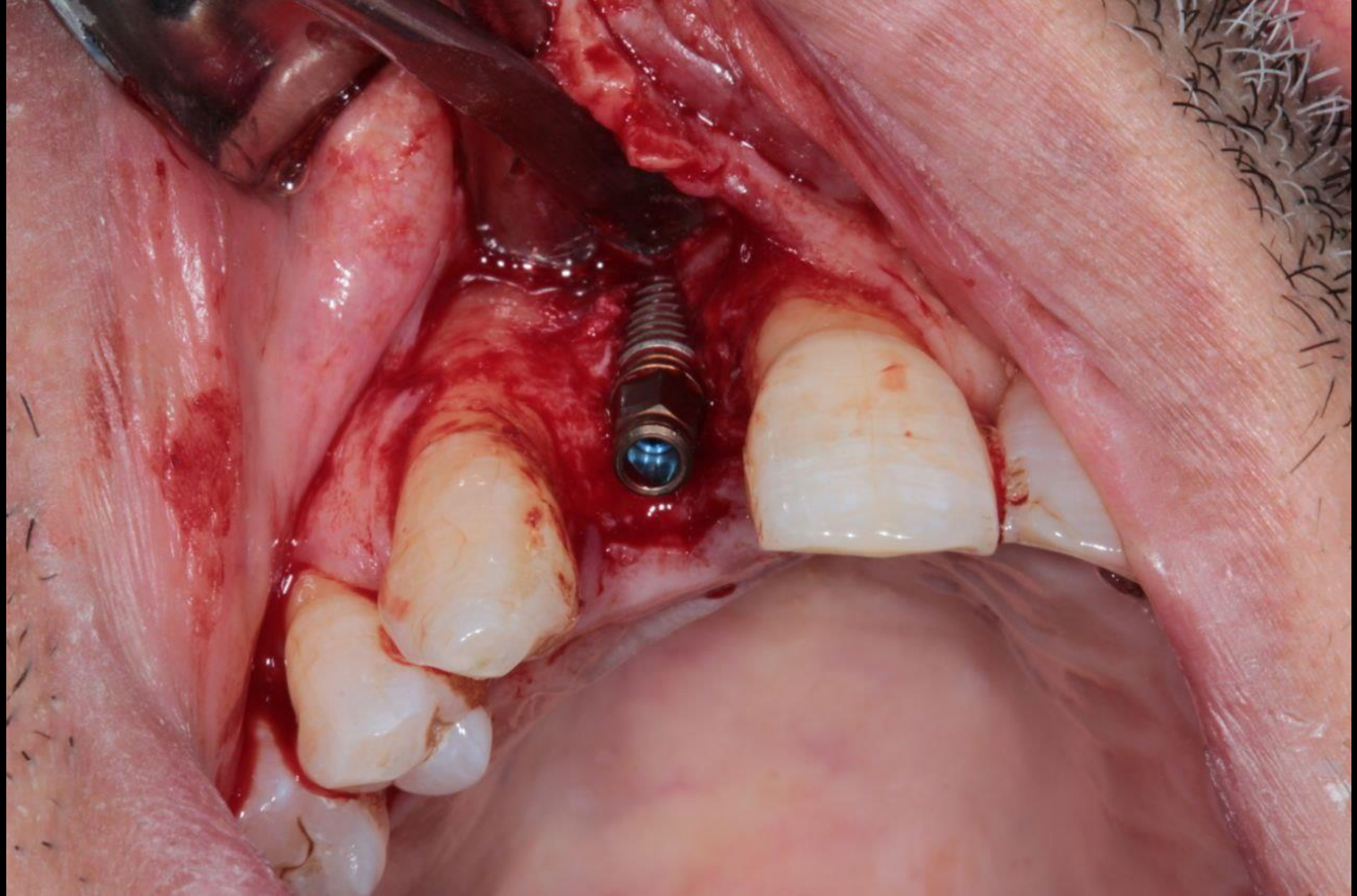


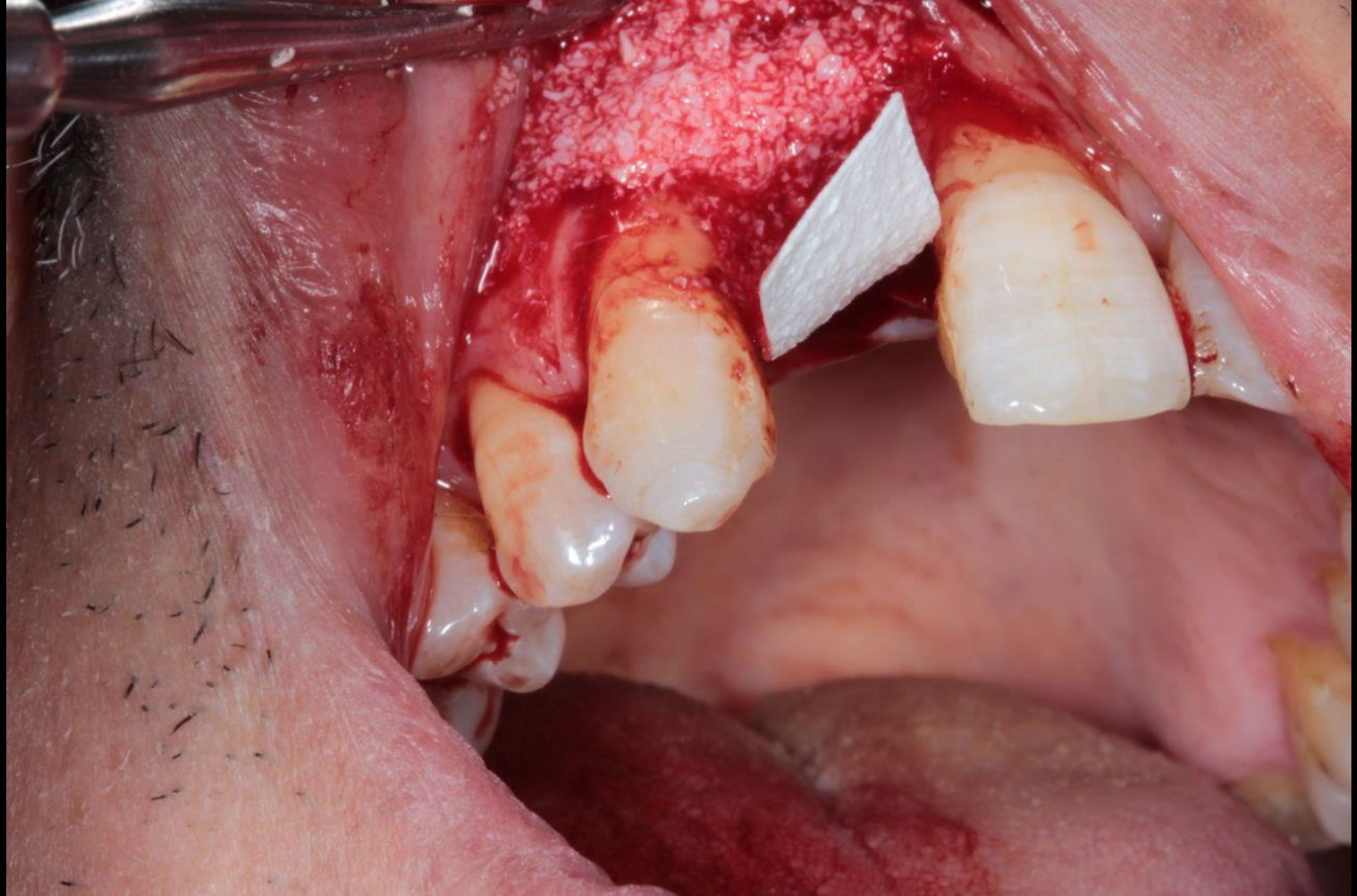
And why

Cover screw or Gingival former

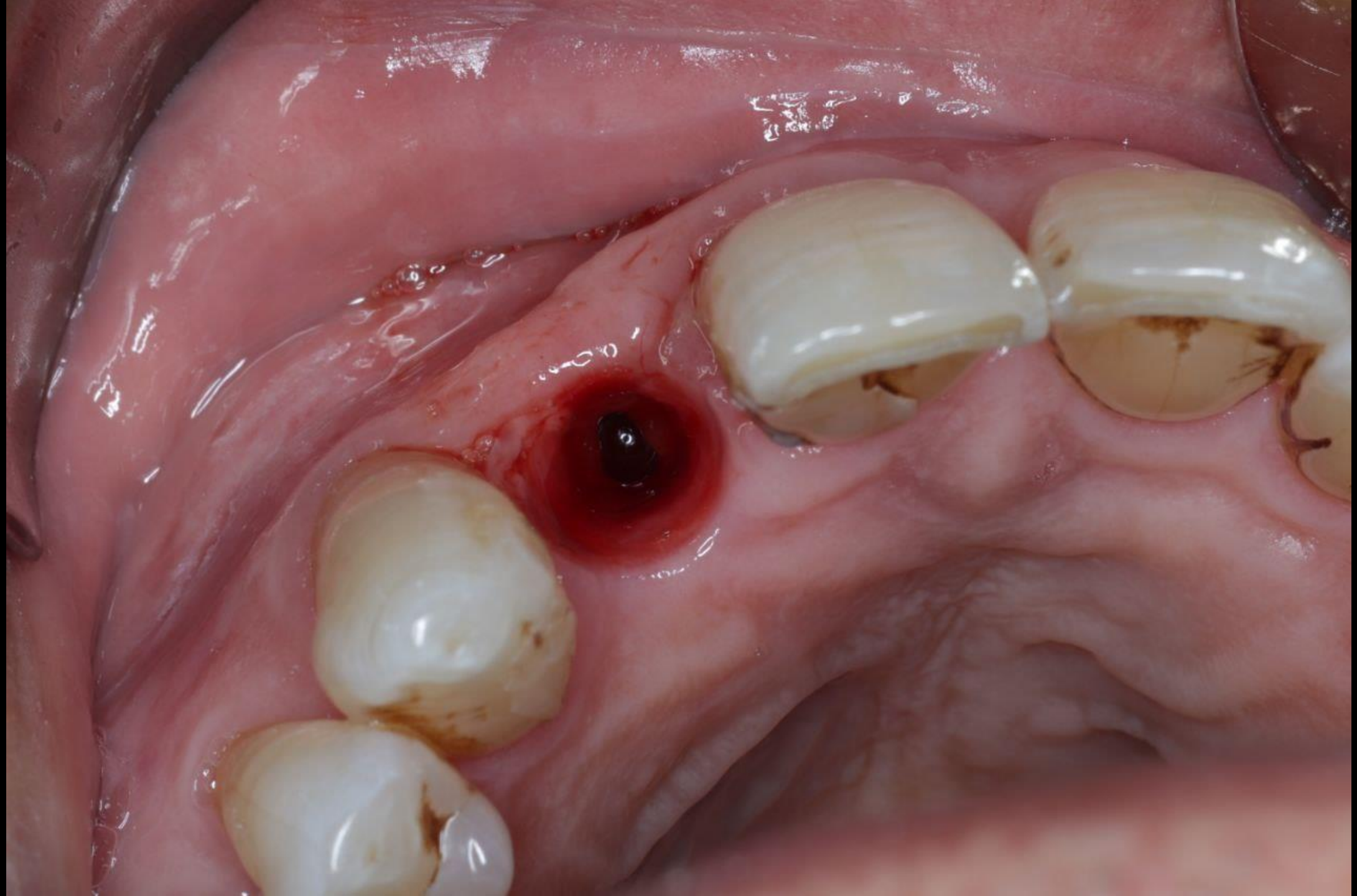


Or use this technique

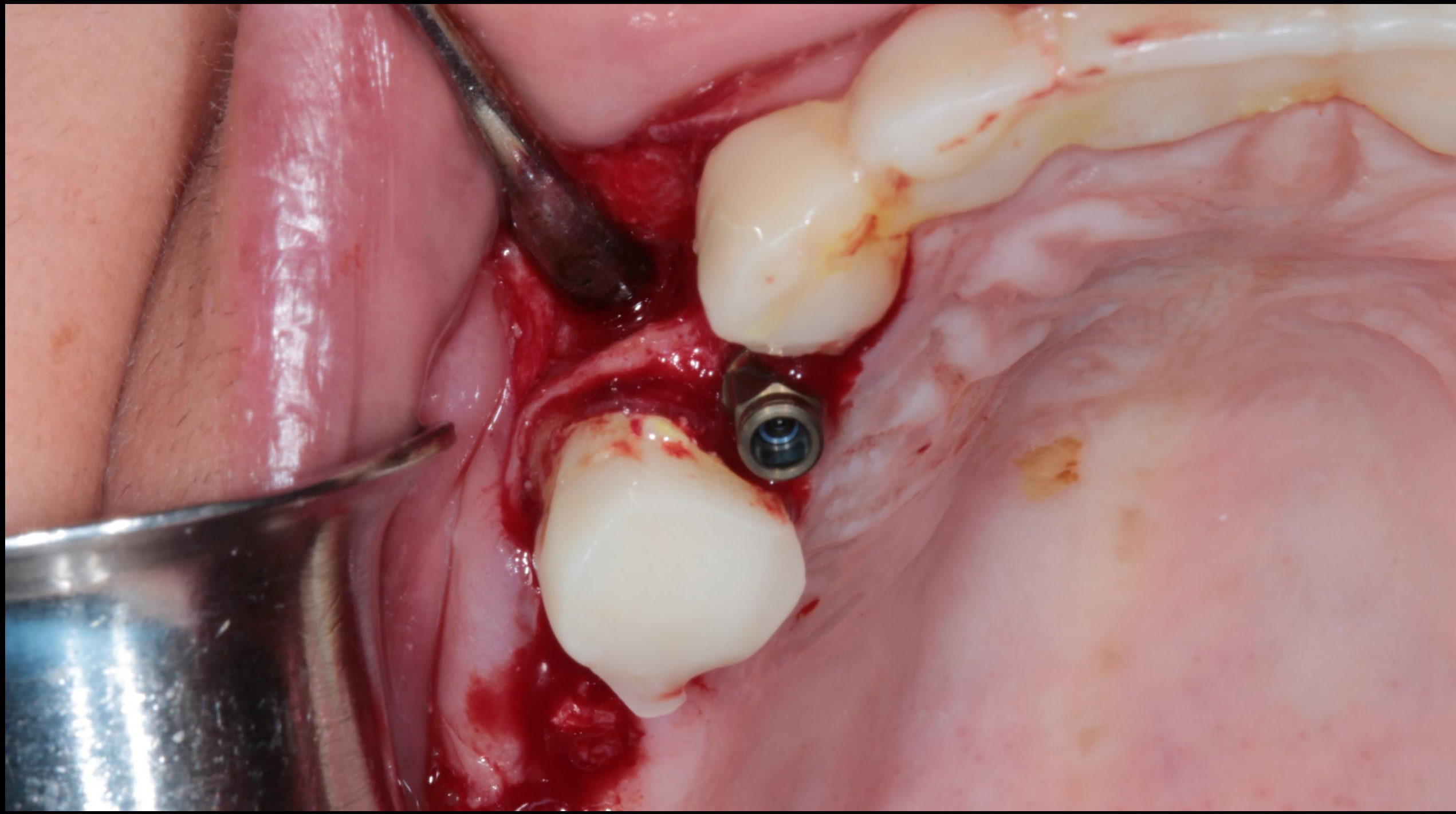


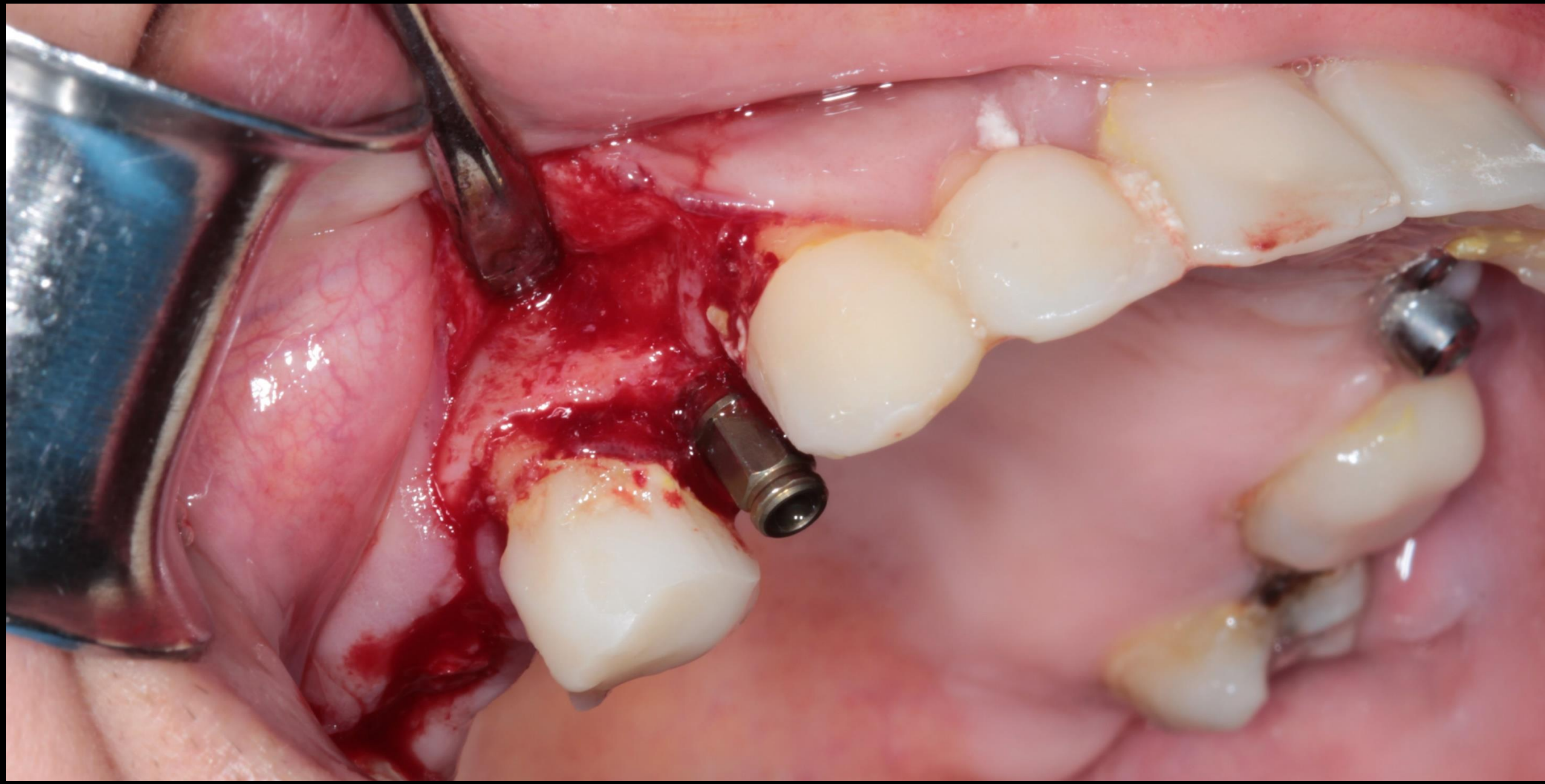



RVG 5200

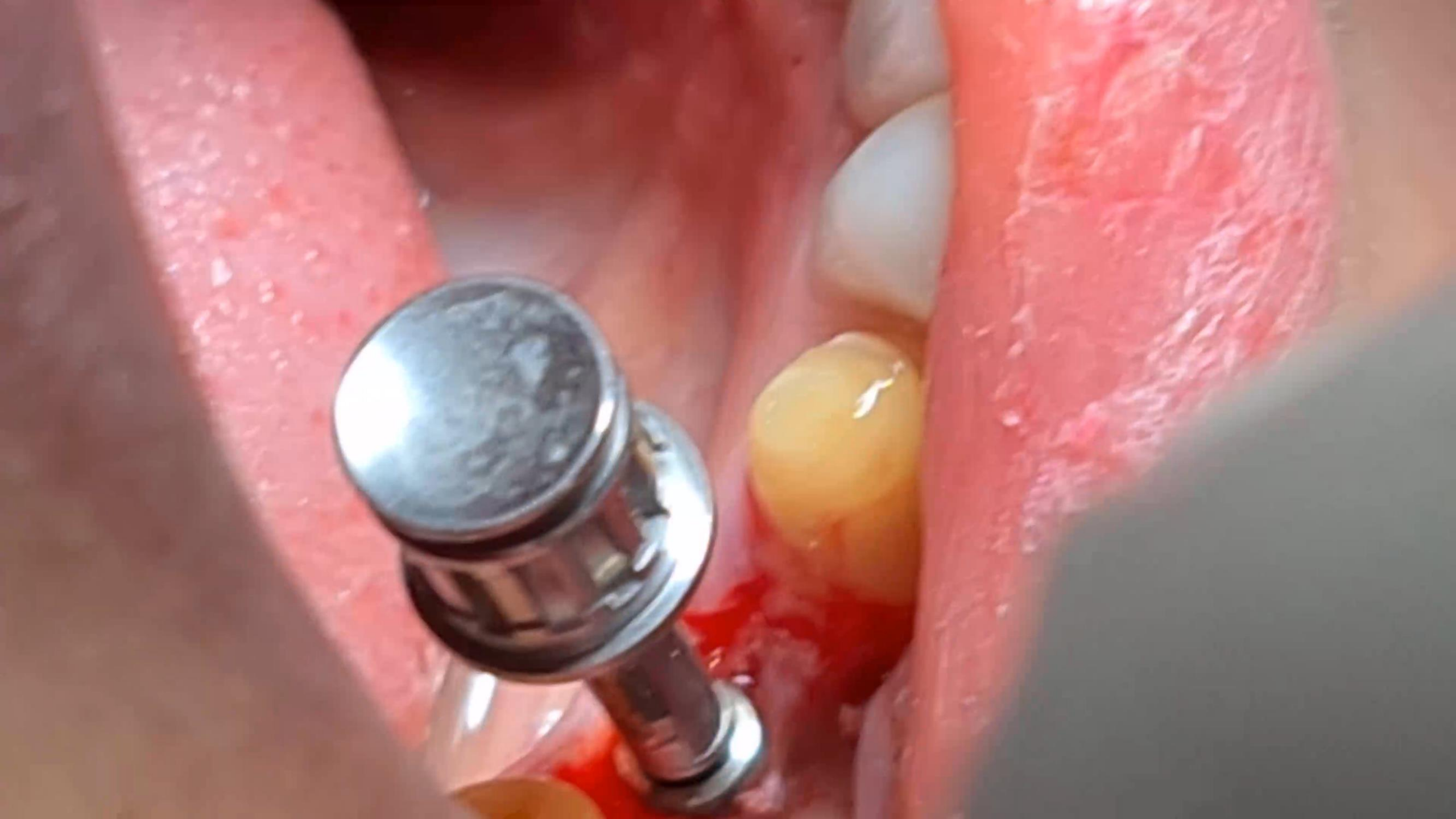


Or fix the membrane with the cover screw

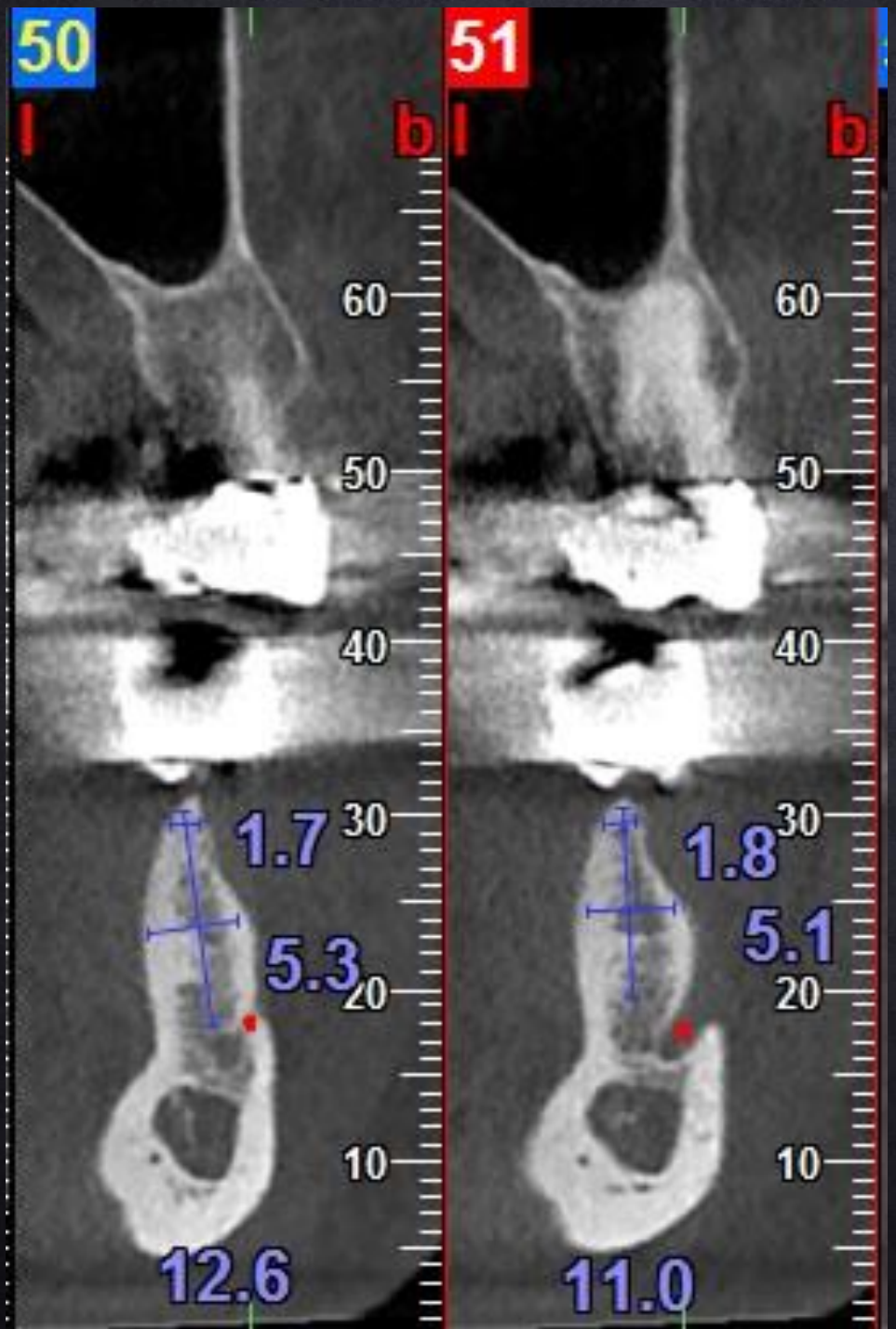




Just keep it simple



Next level


50
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1.7
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51
l
b
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40
30
20
10
1.8
5.1
11.0

RIDGE AUGMENTATION

- It’s a bone augmentation procedure that can be carried out some time before implant placement(two-stage) this necessitate additional surgical episode and the area should be left to heal for period of time before implant placement or at same time as implant placement(one stage),using different material and techniques.
- (Esposito M *et al*, 2009)

Esposito M, Grusovin MG, Felice P, Karatzopoulos G, Worthington HV, Coulthard P. Interventions for replacing missing teeth: horizontal and vertical bone augmentation techniques for dental implant treatment. Cochrane database of systematic reviews. 2009(4).